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ACRONYMES

CILSS	Comité Permanent Inter-états de Lutte contre la Sécheresse dans le Sahel
CIRAD	Centre de Coopération Internationale en Recherche Agronomique pour le Développement
FAO	Food and Agricultural Organization (of the United Nations)
FEWSNET	Famine Early Warning Systems Network
IBRD	The International Bank for Reconstruction and Development
IFPRI	International Food Policy Research Institute
SIGI	Social Institutions and Gender Index
GDI	Gender Development Index
HDI	Human Development Index
UN	United Nations
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WHO	World Health Organization
WFP	World Food Program

SUMMARY

This report investigates the causes of child malnutrition in Niger based on conducted field research in two villages, Yantala Babou and Dogal Kayna, at the Niger River. The families in both of the villages have the same access to agricultural and fishing opportunities, however it is claimed that child malnutrition is a fact in Yantala Babou and not in Dogal Kayna, and the research investigates therefore the causes to the difference. The study focuses on the socio-cultural causes to malnutrition and the relations in and between the communities that can have an influence on the nutritional status of children. The interaction with other communities and ethnicities can influence malnutrition, since communities tend to live with a unique food culture if there are no influences from the outside. Relations can be created through social structures such as marriages between different ethnicities or trade with agricultural and animal products and thereby open up for new food cultures.

The research is structured as a comparative study, which thereby locates the differences regarding social structures and food culture. It has used an ethnographic approach with interviews, but because of a limited time frame it is defined as a micro-ethnography. There is also an elaboration on the methodology in conducting research in the field, since this field research has demonstrated a clear importance of the researcher's knowledge and respect of the many protocols, norms and ethics of the society in order to be accepted and allowed to conduct interviews.

The study provides a different perspective in the discussion of food security and malnutrition in a developing country and reveals the importance of addressing the cultural causes to malnutrition. Since Niger is a country in the Sahel, where droughts and thereby food crisis are often unavoidable, the debate about eradicating malnutrition has often focused on developing the agriculture and thereby to secure the food supply. Feeding practices and food culture have often been less important factors in the discussion, but with the findings of this research, it can be argued that in areas like at the Niger River with a relative food security, these factors are just as important in the discussion of improving children's nutrition as developing the agriculture.

1 THE STRUGGLE FOR FOOD SECURITY

In 2009, the number of hungry people rose to 1.02 billion people worldwide, with Sub-Saharan Africa as the second largest region with 265 million undernourished people (FAO, 2009). Today the number has dropped to 935 million people worldwide (FAO, 2010) but despite the annual fluctuations, malnutrition is a severe problem in developing countries and in order to fully comprehend the causes both the local and the global scale should be taken into consideration.

Globally, malnutrition can be explained by the increase in food insecurity, which is not only caused by poor harvests of staple foods, but also structural factors such as high domestic food prices, lower incomes and increasing unemployment in underdeveloped countries. The economic downturn has worsened the already difficult situation for the poor, who often respond to a crisis with reducing their dietary diversity and less spending on education and health care. These coping strategies have a negative long-term effect on food security and have consequences on the nutritional status of a family (FAO, 2009).

On the local scale, the international structures are felt by the poorest. Poverty and increasing prices on staple grains increase malnutrition. The belt of Sahel, which is one of the poorest areas in the world, has an alarming proportion of undernourished people. One of the causes is found in the agriculture, where the crops are often destroyed by droughts before the rainy season begin in June. This has resulted in yearly food insecurity and a constant need for food aid assistance. Presently, Niger is suffering from a hunger catastrophe, which is claimed to be the worst crisis in this decade, and which since September 2009 has been warned as a food crisis which will escalate through whole 2010 (Care Danmark, 2010). It is estimated that more than seven million people, more than half of the Nigerien population, are food insecure (Action Against Hunger, 2010), and 10% of all children under five are suffering from acute malnutrition, and 44% are suffering from chronic malnutrition (WFP, 2010).

The causes of the present severe crisis are based upon last year's bad harvest which resulted in shortages of food already in February, and thereby threw thousands of people into a state of food insecurity. The coping strategy of the hungry has been to live from natural leaves and roots and selling livestock until the next harvest in September. However, while one part of the

country is struggling with drought, the capital and the surrounding region have experienced heavy rainfall, which has created floods and ruined thousands of people's homes and thereby their living from the irrigated land fields at the river banks (Fessy, 2010).

Since Niger is the poorest country in the world with 65.9% of the population living below the poverty line of 1.25 dollars (UNDP, 2009a) and with its ranking in the absolute bottom of the Human Development Index (HDI)¹, poverty and its related health problems are widespread and severe. The poverty can be closely linked to the Sahelien geography, where the desert and the steppe complicates the agriculture for the 83.5% of the people living in rural areas and results in a limited arable land as less as 11.4% of the total land area (Rural Poverty Portal, 2010). The yield from the agricultural production is one of the lowest in the world but can provide self-sufficiency of the staple foods of millet and sorghum, however, the instability of the time for the lean and rain seasons often make Niger dependent on food aid (Encyclopedia Britannica, 2010c).

Population growth is also a factor to take into account when discussing food security. The annual population growth rate is ranked as the third highest in the world with 3.68% per annum (2009). The present population in Niger is 14.1 million, but it is estimated to be 22.9 million by the year of 2020 (UNDP, 2009). This increase in population is likely to have consequences for the limited arable land which also is seen in the present overexploitation and degradation of the natural environment resulting in desertification (Alexandratos, 2005).

Besides the aspects of overpopulation, the increasing food insecurity in Niger can also be explained by some general aspects, which can be said to be the case in most of Sub-Saharan Africa. The importance of investments in the agricultural sector in developing countries has been neglected, however, in the recent international discussion of development assistance; the agriculture is pointed out as one of the future engines for growth in Africa. Also, the climate changes, which are now being recognized to have major effects in all of Africa as well as in Niger, have resulted in changes of the rainy season and the drought periods destroying harvests as seen in the present crisis (FAO, 2009). This crisis also resulted in an increase at

¹ The HDI is a measure which calculates the average progress in human development in 182 countries. It tries to include social aspects to human development progress than just simply the economic factors often used to describe a country's progress. It is measured by life expectancy, adult literacy, gross enrolment in education and by purchasing power parity (PPP) and income (UNDP, 2009a).

30% on basic foods in the eastern part of Niger (Care Danmark, 2010) which together with the global economic crisis pushed Niger into a difficult and severe food situation with a desperate need of food aid. Another aspect to the difficult situation in Niger is the educational level where school attendance is as low as 34% and more specifically between the genders; 38% of males and only 27% of females go to school (Superintendent of Documents, 2004). Poverty and literacy are interrelated and therefore the high illiteracy rate and the low school attendance are obstacles for Niger's further development (Quisumbing, et al., 1995).

Food aid and projects to increase and improve the agricultural production have been implemented by various NGO's and international institutions to eradicate the severe poverty and the high number of food insecure in Niger. The organizations, who struggle for creating food security and better nutrition for children, often focus their means on developing the agriculture, but there are also many social factors to understand when discussing food insecurity and malnutrition as just reviewed. The focus of this report is on the socio-cultural factors of malnutrition, which are also difficult to change, but knowledge of the mechanisms of feeding processes and food culture could together with an improved agricultural sector lead to changes in the prevalence of malnutrition.

In order to investigate the impact of culture in child malnutrition, research has been conducted in the Nigerien part of the Niger River¹. The case studies are small villages situated along the river; Yantala Babou is near Karma while Dogal Kayna is close to Kollo, cf. images below.

¹ The Niger River in Niger should not be confused with the Niger Delta which is the part of the river in Nigeria also often called the Oil Rivers. It should neither be confused with the Niger Basin which refers to the whole area along the Niger River from Guinea in West to Nigeria in south (Encyclopedia Britannica, 2010b).

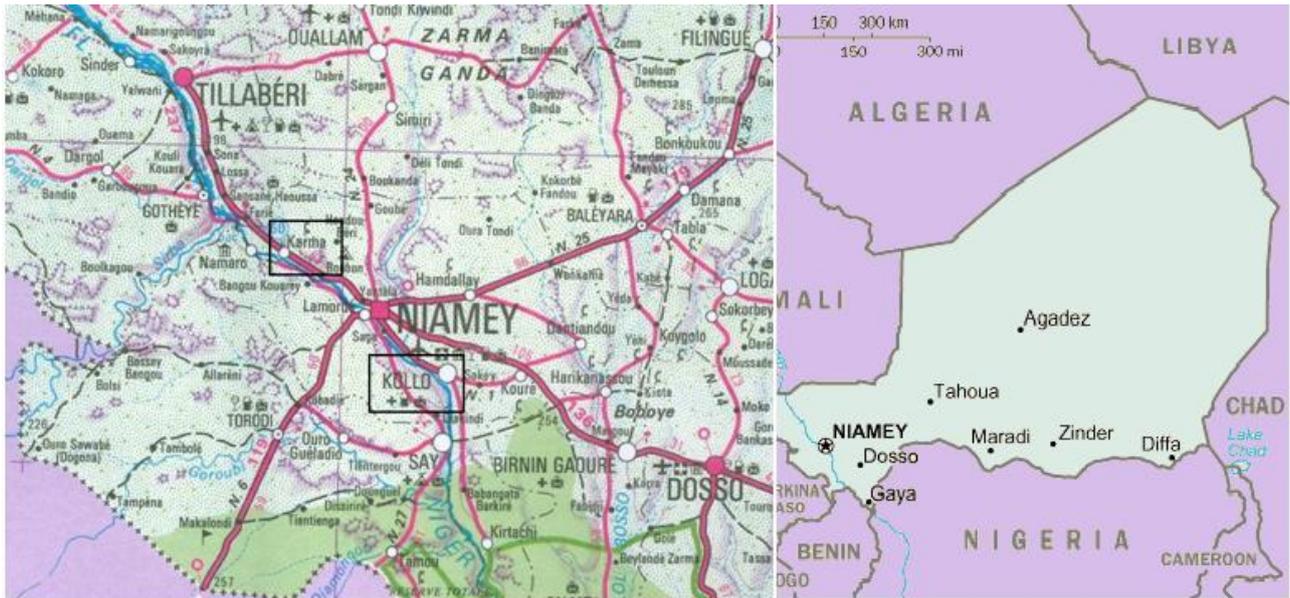


FIGURE 1: GEOGRAPHICAL MAP (INSTITUT GEOGRAPHIQUE NATIONAL) & (PICKATRIL, 2010).

Yantala Babou is a small island with close to 200 habitants and is situated in the middle of the river with about a ten minutes sailing to the river bank of Karma where there is access to; school, tap water, health center, a local grocery and a weekly market. There are no accommodations such as school, electricity, tap water or health center on the island. The other village, Dogal Kayna, is a bigger village at the river bank with more than 600 habitants and has two primaries schools and one France-Arabic secondary school but no electricity or tap water.

The two villages seem alike in many aspects at first glance; they both have equal access to agricultural production and fishing opportunities; however, the nutritional status of children in the two villages is different. In Yantala Babou, the children are suffering from malnutrition while the other village has a relatively normal nutrition. This has been the cause of the investigation and further research revealed a difference in the social life among the villages' own ethnicities and the surroundings, which laid the background for the following research question:

1.1 PROBLEM FORMULATION

What are the differences in socio-cultural determinants, and how can they explain child malnutrition in communities at the Niger River?

1.2 EXPLANATION AND LIMITATIONS

The problem formulation is based on social research conducted in the two villages; Yantala Babou and Dogal Kayna. The transcribed interviews and interview reports from the field are on the attached CD-ROM. The aim of this report is to investigate the causes of malnutrition of children living in this part of Niger where fishing and agriculture seem accessible for all. To have immediate access to different food sources and at the same time experience malnutrition, can seem as a contradiction and cannot be answered directly without taking different factors such as culture, tradition, social relations etc. into account. Therefore, the characteristics of the tribes from the villages in question will be introduced as will the influence from a third tribe, the Fulani, since the tribe is a part of Dogal Kayna and not in Yantala Babou. The tribe is known for having a good nutritional status because of their occupation as herders, which give them access to animal products. Therefore, the investigation explores whether the relations to the tribe in some extent can explain the difference in child nutrition in the two villages.

The focus of study is not within the parameters of nutrition sciences thus I do not have a direct focus on malnutrition as a medical condition; however, a short review of the basics of malnutrition will be introduced. Rather my focus of investigation is instead on the social relations and on the cultural aspects of malnutrition in order to explain another field in the discussion of food insecurity and causes of malnutrition.

1.3 CONTENTS AND STRUCTURE

The report began with an introduction to the subject of malnutrition in the first chapter. It described the scale of hunger and food insecurity on an international level but also on the national level of Niger. The subject can be approached in various ways, but this report presented a socio-cultural focus which in the end of the chapter was included in the problem formulation.

Chapter two will elaborate on the methods used in the report and in the field research that was conducted in Niger. It presents the research design and method in order to explain how, why and what were investigated in Niger. The chapter also has a discussion about the role of the researcher and the findings.

The third chapter is the analysis of the causes of malnutrition. A focus is on the social relations in and among communities in the surrounding area and includes social structures and food culture as the main factors.

Finally, in the conclusion chapter, the research question is answered and a critical review of the process is presented and discussed. The final chapter reflects on this critique in order to present alternative approaches that could have improved and elaborated the research.

2 RESEARCH DESIGN AND METHOD

This chapter is an explanation of methodical concepts in social research that have been attached to the research design and the framework for the collection and analysis of data and the method of collecting data. Its purpose is to openly present, how the data was obtained and under what circumstances, in order to provide an understanding of the outcome of the case studies and the credibility of the research project.

2.1 RESEARCH DESIGN

The background of the report has a problem-based approach with a main question of investigation explicitly outlined in section 1.1. The objective of the research is to document and understand relations among communities along the Niger River which can be beneficial for reducing child malnutrition. The research will deal with differentiated explanations which have cultural, religious and social aspects and which all have implications on malnutrition in a relatively food secure environment.

The objective will be achieved by several methods through a case study approach with an ethnographic perspective. There have been visits to the field of the Niger River in order to collect first-hand data in form of interviews and observations. Since the focus of the report is limited in the general academic literature, the main aim of this report is to demonstrate the phenomena and document its existence. The research has been structured by the methods outlined in the illustration below.

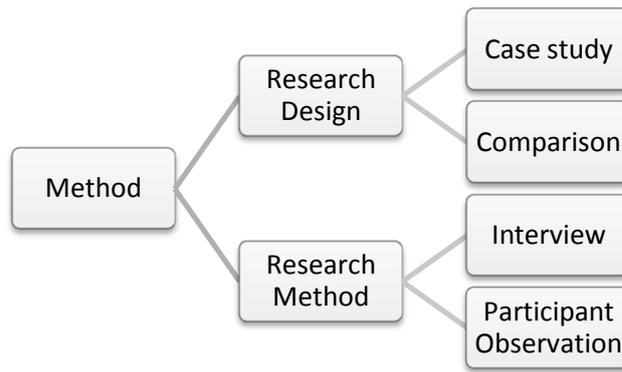


FIGURE 2: LEVELS IN METHODOLOGY

The graphic above demonstrates the two levels in methodology. The research design of the field study is based on a case study design and on a comparative design. The design contains two levels, since there is a case study design, which tries to understand the context of the communities at the Niger River, while the comparative design tends to demonstrate the nutritional differences in the same environment

There has been some discussion about whether a case study can be used to state something on a broader scale, to generalize, or if it is simply a study of a specific case that cannot be related to other similar cases. However, it is worth exploring if the case can demonstrate something beyond just the case in question, or whether it has transferability to other similar cases. The specific characteristics of the case study do pose a problem to generalization. It is difficult to conclude whether or not the case study can be the background for a wider generalization or contextual understanding (Hancké, 2009), but much can be learned from this unique case. Data on Niger is rather limited, but the data achieved from this case demonstrates that there are more social and cultural aspects to malnutrition than often provided in the literature. It also suggests that a medical and measurable phenomenon such as malnutrition cannot be explained in isolation by poverty and ignorance. It inspires to conduct more unique case studies with not only a focus on the quantitative and medical methods but rather on a research which can handle both fields.

The data conducted in the case study is based on qualitative methods of which specifics and characteristics will be elaborated on in the following section.

2.2 RESEARCH METHOD

The research method used in the field is based on an ethnographic approach, which is often ranked alongside with a participant observation method (Dewalt, et al., 1998), but since the participant observation method does not include an interview method, the ethnographic approach characterizes better this field research (Bryman, 2004). This field study is, however, not a full-scale ethnography since it usually entails long periods of time in the field. This research can be described as a micro-ethnography with its limited time frame, and since it focuses on a specific aspect of a topic (Bryman, 2004).

Ethnography is both an active and a passive method, where the researcher at the same time participates and observes events and behavior. The researcher involves herself in a group for an extended period of time, observes behavior and listens to what is said in the group but is also asking questions, which are usually preformed as semi-structured interviews. Ways to accomplish this depends also on the role of the researcher in the specific social setting. This research has been carried out in a relatively closed setting, where it has been necessary to covert the background of the actual research. When entering the field the amount of information given to the village can have an impact on the interaction with the participants, thus I presented my biography with the following information to the participants in the field:

- Student from Europe in development issues.
- Interested in culture and live styles in order to understand how to reduce poverty.
- Interested in agriculture and food security in Africa.
- Has had an internship in Niger for 5 months.

This was based on the assumption that the people in the villages will not be very pleased if I openly were to investigate malnutrition of their children, since they probably had other explanations for the children's diseases or maybe did not know what exactly malnutrition is or is caused by. It was done in this way, as it seemed right to keep information simple, since many in this area do not know, where Denmark is, or what it means to study at a university, and this could therefore risk creating confusion among the participants.

The information that I left out related to the aim of the investigation, which was to investigate malnutrition, however, in my presentation in the second village, Dogal Kayna, I did present

the research with the aspect of malnutrition, since it was clear to the village that I must be in search of something more than just life styles. This assumption was generated, when it was known that our first village had been in the area around Karma, which apparently was known in the area for its spirituality and deep poverty.

The following section will introduce the literature review, which has been a continuous process through the report as the subject has been more focused and strengthened with time.

2.2.1 DOCUMENT ANALYSIS

My personal experiences as an intern in Niger gave inspiration to investigate the social dimension of malnutrition in Niger. Furthermore, I reviewed the literature of food security and hunger, since it is the overall subject of malnutrition and has provided background knowledge on the many reasons for hunger. Agricultural development is often a dominating focus area, while the social implications of malnutrition appear less investigated and understood which gave further motivation to continue this different angle on malnutrition. To explain the social dimension of malnutrition, social relations began to be more and more important in order to fully understand malnutrition in these communities, which also helped to narrow down the study area. The figure below illustrates where the focus in the literature review and in interest began and ended.

In the social dimension of nutrition, food customs and the related food culture are important subjects but also rather limited subjects in the general literature about malnutrition. Niger, as an area of geographical interest, has not been well investigated with the social dimensions of hunger. However, after the famine in 2005, where many NGOs came to assist Niger's hunger crisis, reports on many aspects of hunger were developed but mostly the structural causes such as poverty

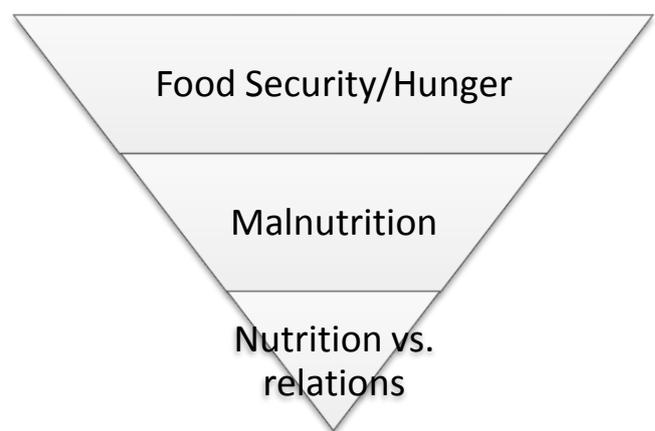


FIGURE 3: READING FOCUS.

and the agricultural production were studied; (CIRAD & CILSS, 2005), (Delpeuch, 2006). Although, USAID did produce a report which also had a section dedicated to feeding practices seen in a cultural perspective (USAID, 2006). A newer book on the subject with a general perspective is, "Adequate Food for All -culture, science and technology of food in the 21st century" (2009) which focus is entirely on the social dimension of food culture and therefore provided a good background in the research.

The literature with Niger as the geographical area has subjects such as; agricultural development, the consequences of climate changes and cultural understanding but relating to food culture there has been a focus on wild plants as a coping strategy in times of food crisis. Here, articles from "the International Journal of Food Sciences and Nutrition" are an example. Traditionally, much literature about hunger in Niger has been on property rights and ways to optimize the food production in an environment, which often suffers from yield deficits. An example is Christian Lund, a Danish expert on local politics and conflicts over natural resources in West Africa, who has written, "Law, Power, and Politics in Niger – Land Struggles and the Rural Code" (1998). Although that book is in English, the majority of books with Niger as their focus area are in French, which can be a hindrance for people without French skills to have Niger as their geographical research area.

In relation to agricultural development, international institutions have published almost yearly reports on the challenges of a green revolution in Africa as well as in the Sahelian agriculture. Multilateral institutions such as FAO, IFPRI and the World Bank are examples on important international institutions that all publish reports on agricultural improvements in a global perspective but also with a special focus on Africa, where the specific difficulties of the Sahel often are mentioned. FAO publish every year a report called, "The State of Food Security in the World" with a focus shifting from year to year, which in 2009 aimed to explain the consequences of the financial crisis for the poor. World Bank also publishes, "The World Bank Annual Report" which presents an economic review of the bank's finances and its supported projects. Together with The International Bank for Reconstruction and Development (IBRD), the World Bank produces, "The Global Monitoring Report," which also this year discusses the impact of the financial crisis on the poor. Besides the yearly reports, the institutions also publish reports with special subjects on a regular basis e.g. IFPRI's "Millions Fed" (2009) and "Halving Hunger" (2010).

Many bilateral and non-governmental organizations (NGOs) also publish yearly reports such as UNICEF's "Progress for Children", whose theme changes, but which in 2006 had a nutritional focus ("Progress for Children -a report card on nutrition"). These international reports are in general and overall terms but are able to demonstrate the scale of malnutrition and its prevalence. However, in these reports, the causes of malnutrition are often found in the fluctuations of the agricultural deficit and in the international market prices. In order to have a more national view on food insecurity and malnutrition the independent websites of the institutions have been helpful with their country overlook and statistics. Especially, international institutions such as FAO and UNDP have been used in sections about Niger's social and economic characteristics and in order to demonstrate the current nutritional status.

Since the Sahel always has suffered from food crisis, there are many international organizations and NGOs in the area, but during and after the severe famine of 2005 the NGOs began to come in large numbers. Some of the more visible international NGOs in Niger are: Concern, Save the Children, Croix Rouge Française (French Red Cross), Action Contre le Faim (Action Against Hunger), Medecins sans Frontiers (Doctors without Borders), Hellen Keller International and Care International, which all deal with the consequences of the constant food insecurity. Many of the abovementioned organizations published articles or yearly reports during and after the famine of 2005, which has been said to be the worst crisis since the famine of 1973-1974 (CIRAD & CILSS, 2005). This is why there is much literature on the food crisis in the Sahel from that period, and the extent of NGO's has contributed to a stronger focus on Niger.

In recent years, the development debate has focused on women's rights and potential to elevate poverty. Education and gender equality are now unavoidable subjects in the literature of food security, children's malnutrition and agriculture. This strengthened focus on women's potential has also been of interest, unfortunately, the traditions and culture made it difficult to interview the women and explore the field further.

Another part of the second-hand literature consists of sources from various databases at the electronic library of Aalborg University; AUBOLINE. Other sources were used as background knowledge before entering the field and have an anthropological focus in their way of

conducting research and include among others; Bryman (2004), Delaney (2004) and several chapters from the book: "Handbook of Methods in Cultural Anthropology," (1998).

To understand the medical aspects of nutrition a basic textbook such as Foster et al. (1999) is used and several others as background knowledge for an example Black et al. (2008). Since the aim of the section on malnutrition is to define the term and demonstrate the severity of malnutrition basic literature was sufficient.

It is difficult to find similar case studies, since other case studies that are focusing on malnutrition often are conducted by people with a background in natural sciences such as medicine, nutrition, biology, health or statistics. Their focus is often to document the prevalence and severity of malnutrition, and only in rare cases do they tend to explain the causes of malnutrition. There are often used statistics in the case studies as a method of investigation in which they deal with measures e.g. wasting and stunting.

When reading secondary sources, key concepts of the research have been specified and studied and later included in the problem formulation. They will be presented in the following section.

2.2.2 KEY CONCEPTS

The two key concepts in this research are malnutrition and food culture. These concepts have been chosen, since they sum up the two aspects of this research: the causes of malnutrition and the influence of culture in food and feeding processes.

Malnutrition

Malnutrition can be difficult to distinguish from undernutrition in the general literature since they are often used in the same context. The following section will therefore account for the specific notions relating to malnutrition and undernutrition.

There are said to be four different types of malnutrition; Overnutrition, Secondary Malnutrition, Micronutrient Malnutrition (Dietary Deficiency) and Undernutrition (Protein-

Energy Malnutrition). In this research, it is the last two kinds of malnutrition, which are relevant. Though, the first kind of malnutrition describes obesity, and while the second type of malnutrition is not directly a cause of the diet but is linked to an illness, which the person already suffers from, and is thereby causing problems for the dietary intake. The third and the fourth type of malnutrition are the varieties, which are present in developing countries in a large scale. Micronutrient malnutrition is when a person is lacking essential micronutrients as a cause of insufficient nutritious food, however, the amount of food can in some cases be adequate, but it is the vital micronutrients such as vitamin A, iodine and iron, which are lacking in the diet. When a person is not consuming the adequate amount of food respectively calories and proteins, the person will suffer from the fourth type of malnutrition; undernutrition. This can only be solved by increasing the amount of calories and proteins; however, the condition is strongly attached to poverty (Foster, et al., 1999). This condition has also been used to describe hunger especially in reference to food insecurity (Black, et al., 2008).

When a person suffers from undernutrition and thereby consumes insufficient calories and proteins the person's growth and size will be affected. In this case, it is necessary to distinguish between Acute Undernutrition and Chronic Undernutrition. The first condition describes a short-term period, where the human body suffers from undernutrition often seen in case of a famine, but where the body can restore itself when access to food is re-established. Opposite, chronic undernutrition describes a long-term inadequacy of proteins and/or calories (Foster, et al., 1999). The latter can be measured in terms of wasting and stunting. The person suffering from wasting is underweight compared to an expected average weight for the specific actual height of the person. Stunting is the condition, where the child fails to grow normally and then becomes stunted (FAO, 2001). There is also the possibility to measure undernutrition by comparing the proportion of children, who are underweight, with that expected for a well-nourished child of that age and sex (Black, et al., 2008).

People, who suffer from undernutrition, often do not die directly from the condition of undernutrition itself but from infectious diseases. Infections increase the potential for and the severity of malnutrition, since the body, attacked by infections, responds with a lack of appetite and is consuming the last energy (proteins) of the body. Children are the most vulnerable group to undernutrition, since their bodies are not strong enough to cope with the

variations in the dietary intake and because of the risk of infections (Black, et al., 2008). Other severe conditions from undernutrition include the visible symptoms of marasmus, kwashiorkor and a combination of both, cf. figure 4. Marasmus is seen when the child is extremely skinny, has a face that is sunken and old looking, and a distended stomach. The other condition, kwashiorkor, can also develop when the children are suffering from micronutrient malnutrition, and its symptoms are visible at the child's legs, arms and face that are swollen, a face which is pale, thin and with skin that is peeling, and straighter and pale hair (FAO, 2001).

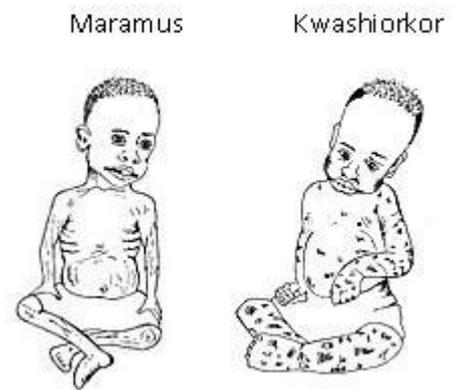


FIGURE 4: KWASHIORKOR AND MARAMUS, (FAO, 2001).

Food Culture

Since food culture is composed of two words both of them have to be elaborated. First and foremost, food is a response to biological stimuli and thereby fulfills a biological need, but it is also a response to cultural stimuli that fulfills a social need. The social need is shaped by social, religious, political and economic food processes, but especially culture has an influence on the food intake. This means that the study of nutrition is a bio-cultural discipline, but the term of “culture” itself is difficult to define (Fieldhouse, 1986). However, an old anthropological definition states that culture is:

...“that complex whole which includes knowledge, belief, art, morals, law, customs and any other capabilities and habits acquired by man as a member of society”

(Fieldhouse, 1986: p. 2).

Despite of the great diversities between cultures, culture and the included food habits can be said to be characterized by some general aspects. Culture is a learned experience that is acquired early in life but can be unlearned and modified through time and is thereby not biological determined. This means that culture and the food habits involve change while each generation is born into a culture but never into exact the same as the ancestors. Despite the

ongoing change, every culture and also the food habits resists change. Even though, people are reluctant to change their culture, they are often unconscious of their culture and are simply caring out cultural behaviors unthinkably. Also, culture has a value system, which tells them what behavior and relating food habits are acceptable in the culture (Fieldhouse, 1986).

Both the concepts have been sources of valuable background knowledge in the field and helped guide the questions of the interview in the two villages. The details about the interview and the practicalities of the field research will be introduced in the following section. It will present the first-hand data from the conducted field research and discuss the theoretical background as well as the practical setting but also its reliability and ethics.

2.2.3 THE FIELD RESEARCH

This section will introduce the field sites and explain the process of the conducted research in Niger. Furthermore, it will give an understanding of how and why these two villages were selected.

The field trip took place in the period from the 26th of May to the 28th of June and the time was used in the following way:

- Preparing and organizing the trips to the villages (3 weeks)
- Conducting research in the field (1 week)
- Transcribing from Hausa to French and reporting (1 week)

The field trip took place in a total of five weeks, where the first three weeks was used to prepare the trip with practical arrangements such as equipment and most importantly to identify the villages suitable for the research. I had remained in contact with my former internship host, Maïtouraré Boukary Bako, who assisted me as a guide, interpreter, key informant and gatekeeper. Also, we made contact with the manager of a piroque¹ agency, Zanni, who I had met during my internship. The manager introduced us to the villages which could be used in the research but also stressed the important fact that the present period of drought and thus the progressing food crisis created problems to all in some extent.

¹ pirogue is a traditional boat in Niger

One week was used to conduct interviews in the two villages, the first to be Yantala Babou. After the visit we made another visit to a Fulani village named Goré-Kairey in order to understand the relations among the communities to the Fulani tribe and to identify the second village; Dogal Kayna.

The last week was used to transcribe the interviews, which my interpreter did almost independently, since it had been conducted mostly in Hausa. However, together with my notes from the field, I kept track of the translation.

The villages were selected from the following criteria:

- Accessibility
- Language
- “Known” nutritional status

Accessibility includes both the physical and the mental access to an environment. The difficulties in the physical access had been to select two villages, which could be reached rather easily by the given infrastructure. Since we could not expect that there would be any accommodation in the villages for us the luggage of tent, kitchen equipment etc. was also of consideration in the travel arrangements. We selected Yantala Babou since it was possible to drive to Karma and from there take a pirogue to the village. The other village, Dogal Kayna, was almost impossible to reach directly by car or bus so instead we decided to reach it from the opposite side of the river from Kollo and then cross the river with a local pirogue. The physical access was a challenge but gaining mental access in this environment could not have been done without a gatekeeper, who knows the many protocols and proper behavior in this private setting. Mr. Bako was my gatekeeper, who is from a noble caste in the nomadic Fulani tribe and has worked in many remote areas with his NGO and therefore knows many of the local customs and protocols in the different cultures. Although, he was not a part of the specific setting, he could be described as an informal gatekeeper¹, since family descent and status is important in rural Niger, when new contacts are established. Especially in Dogal Kayna, my level of access was high, since the village had a Fulani chief and thereby Mr. Bako and I were respected immediately. However, a problem occurred in the process of gaining

¹ Term used in (Hesse-Biber, et al., 2006).

mental access in both the villages since our intention was to have a focus group of purely women, but this could not be accomplished. This is due to the fact that women in this society live in seclusion (Countries and their Cultures, 2010) and are not allowed to speak publicly without their husband, which was especially visible in Yantala Babou. So the interview in Yantala Babou was conducted with almost the entire village present but with a group of about six men and one woman, who answered the questions. In Dogal Kayna, the chief found six men and four women, who could answer the questions.

The language also had an influence in the selection of the villages, since my gatekeeper could not speak fluently Djerma but Hausa, Fulani and French. Since many of the populations along the river are Djerma, Hausa or a mixture of both, we had to be sure that at least a hand-full of persons in the selected village could speak Hausa. In Yantala Babou, the conversations were on in Hausa, but in Dogal Kayna the conversation was conducted in three languages. The questions were first put in Fulani in respect to the Fulani chief, and then translated into French to the two French speaking men, who then asked the questions in Djerma to the rest of the group. The translations resulted in practical difficulties to record the interviews in both the villages, so some of the interviews were recorded and transcribed into French and others were instead summarized in a report by Mr. Bako and me. All of it is attached on the CD-ROM including the interview guide with its five main subjects; presentation, food production, feeding practices, culture & life style and relations to other communities.

The last criterion was the “known” nutritional status, which was of interest in order to see the difference in nutritional status between two villages. The nutritional status was partly given by Zanni and Mr. Bako, since I only knew a few villages from my previous visit in Niger. Zanni informed that the area around Karma had problems with malnutrition and therefore suggested that we visited the village of Yantala Babou. I relied on this piece of information until arriving in the village but it was soon confirmed since I was met by children that had the visible symptoms of kwashiorkor, cf. section 2.2.2. Also the children looked in a poor condition compared to the many other places with children that I had been to.

The criteria presented in this section will together with the ethical considerations regarding the data outcome be elaborated in the following section.

Ethics

Ethics is a part of the many considerations before an actual research project can take its form and during its process in the field. Ethics can be perceived as morality or personal principles which in the field can be compromised in order to obtain the wished information. Although, it can be a difficult balance between one's own principles and how to withdraw the information properly is, however, the task of the researcher (Fluehr-Lobban, 1998). In my project, there have been many ethical considerations, since there are many protocols and ways of behavior to follow in these communities, which are difficult to know for outsiders. The experience from my internship helped to comply with the many protocols, which are necessary to follow in these communities if confidentiality is wished established.

My own personal principles and ethical values concerning the field research were situated in great respect for the people, who are able to live in this difficult environment, where the weather controls the outcome of both the agriculture and of the fishing opportunities and thereby the possibility for survival. In the Western part of the world, the weather and thereby the state of the natural resources can also have an influence on the outcome of e.g. the harvest, but it is seldom a matter of survival. An environment so dependent on the state of the natural resources is very fragile in every way, but where it is still possible to create a living, is in my perspective remarkable. Furthermore, my ethics also included an awareness of their traditional beliefs, superstition and life styles, so I tried to show my respect and curiosity and not to judge or tell them differently. Before the visits, I did not know about their specific view of life so when new information came along about the subject I just kept an open mind. A further reflection of my values in the research will be elaborated in the conclusion chapter, cf. section 4.2.

The aspects of ethics also include considerations of using the data from the research. It can be advisable to have ethical codes in the shape of informed consent forms (Hesse-Biber, et al., 2005) and make it clear from the beginning that they have the liberty not to answer on some of the questions (Fluehr-Lobban, 1998). In my research project, I informed the people in the villages of my intentions with the research, when I presented my biography (ref. 2.1) and their liberty to answer the questions. In both the villages, they gave me their verbal consent to use the research data and not in paper form, since most of the people were illiterate. Although, in

the first field trip to Yantala Babou they informed us after the interview that they in the beginning had been afraid that we had been sent from the government¹ and therefore had been unwilling to fully cooperate. I imagine, that this would have inspired to more distrust if using an informed consent form. However, we did not notice this suspicion, but we performed also the research partly covert, since we left out some details about the research (ref. 2.1). Covert research is of course of ethical consideration both in respect to the researcher's own ethical values of honesty and respect but also to the people studied. There can be a risk of harming the informants through the interview by making them answering uncomfortable questions but also afterwards when the research is published. This field research does not contain highly ethical sensitive subjects, which can jeopardize the people studied, and does protect the people's confidentiality.

Another important factor to consider in social research is intrusiveness. Since I visited the villages without having made any prior arrangements, as that was impossible in these remote areas, I intruded on their community as I hoped for the well-known African hospitality but feared their reluctance to the research. However, the hospitality, especially in the countryside, was a godsend and again confirmed that there is no real resistance towards "the white man" in this environment. With that said, it was necessary to understand the protocols and norms of the communities in order to receive their goodwill and acceptance. Because of my previous research on the tribes and received preparation from Mr. Bako, I had some knowledge of the protocols before entering the field.

2.3 SUMMARY

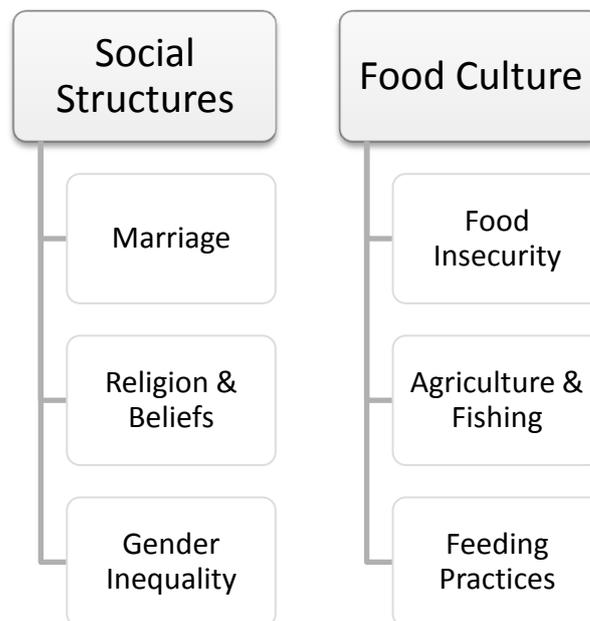
This methodology chapter has presented the strategy of the research project with the research design and the research method, respectively the case study and the ethnographic approach. The practicalities of the field study have been specified in the criteria for the selection of the villages, which include possible sources of error and pitfalls. In regard to accessibility, the villages have been selected not for the research subject itself but for

¹ They were not interested in talking to the government, since they were afraid that the village then will be registered for tax. Also, the interest in talking to any organizations was not present, since several had come by and promised projects, but there had never been any results.

geographical factors, since time and infrastructure had to be of consideration. This has limited the number of possible villages and thereby case studies. Another noteworthy criterion which can be discussed is the barrier in language. Since I was only capable of communicating in French, an interpreter was essential. However, the interviews in the second village, Dogal Kayna, were in four languages at times, which can create doubt of the quality of the interview, since I could not keep track of the actual conversation. The last criterion of the known nutritional status was a judgment made primarily by others rather than myself. Here again, I relied on others' assumptions and at the same time also made the judgment of the nutritional status without having any medical background. However, my studies often require that I investigate new areas so under the circumstances of limited time and resources the criteria for the selection of the villages can be justified.

3 SOCIO-CULTURAL EXPLANATION FOR MALNUTRITION

This chapter will explain the causes of malnutrition in a socio-cultural perspective with focus on social structures and food culture which elements have been derived from the field research. The case of Yantala Babou, where the children were malnourished, will therefore explain why and which differences exist compared to Dogal Kayna, which did not have any visible malnutrition.



The illustration above demonstrates the elements in explaining malnutrition in the two cases. The research has focused on the relations that are present between communities and within each community to explain the nutritional status of the children. The analysis will begin with the social structures and then food culture will follow.

3.1 SOCIAL STRUCTURES

This section will demonstrate that social structures have an impact on the nutrition of children in the two case studies. Life is based on social structures through e.g. family, religion, culture in which people interact with others and create an identity and a culture. The social structures have an impact on nutrition, since the level of interaction decides the openness

towards other ways of living and other foods. Also trade and occupation are important in the social structures of a community, but this will be dealt with in section 3.2 about food culture.

To begin with, an overview of the social structures and related problems to malnutrition will be explained in a national perspective. Following, the social structures in the two case studies will be analyzed.

3.1.1 GENERAL DETERMINANTS OF MALNUTRITION ASSOCIATED WITH SOCIAL LIFE

To understand how the social structures can cause malnutrition, indirectly or directly, it is necessary to begin with some general determinants of malnutrition within the Nigerien society. The society is based on the importance of the family and culture, which together with ethnicity provide a strong conscious identity to people. In rural areas, everything is based upon the family, since the family arranges life decisions, such as marriages and occupation. In the arranged marriages relatives are often preferred (Countries and their Cultures, 2010). It is estimated that between 20-30% of the marriages in Niger are between relatives (Bildirici, et al., 2009), but this custom can have fatal consequences for the infants of the consanguine parents. In Niger, the exact prevalence of the health problems with children from consanguineous parents is not well investigated; however, there are some general estimation for the prevalence of child mortality and diseases relating to the parents' consanguinity. Infant mortality in first cousin marriages is 4-5% higher than in non-consanguineous infants. Excess mortality and serious childhood defects have been reported in 20-35% of the offspring of consanguineous partners of the first degree, whether brother-sister, father-daughter, or mother-son (Encyclopedia Britannica, 2010). The children of consanguineous parents have a higher risk of suffering from a weakened immune system, genetic diseases, cardiac failure, kidney problems, mental disabilities and congenital anomalies (Bildirici, et al., 2009) in which the congenital anomalies account for 5% of the yearly deaths in children under the age of five in Niger (WHO, 2006). There are many reasons to explain that Niger has one of the highest mortality rates in the world under the age of five at 167 per 1000 births (WHO, 2008), but the proportion of child mortality relating to infants from consanguine parents could play a role.

Not only are marriages arranged within the family, but polygamy is also widely practiced, since it is allowed according to Islam to have up to four wives, however, more than four wives are also common but the fifth wife (or more) can be defined as a slave (Countries and their Cultures, 2010). This custom is based in indigenous customs and religion, however, in Niger 80% of the population is Muslim and 20% have indigenous beliefs or are Christians, but there is often a very strong attachment to the indigenous beliefs (CountryWatch Incorporated, 2010). Thereby religion and culture are major factors to Niger's high fertility rate (The Guardian, 2008), which is the highest in the world at 7.75 children per woman (CIA World Factbook, 2010). Since food insecurity is constant in this country, the many children are in high risk of being malnourished early in life because of the lack of food or insufficiently nutritious food but also of the related health risks of close consanguinity between parents.

The social structures are favorable to men, and women in Niger live in a male dominated society. The women are to obey their husband as a part of the culture and tradition and in many aspects they do not have the same rights as men. With respect to inheritance the Islamic Sharia law or ethnic customs often overrules national law which is half of a man's or the latter one quarter of a man's entitled inheritance. Also the right to the children is assigned to the man at the child's seven year (SIGI, 2010). The GDI (Gender-related Development Index) for Niger also supports this, since the country is ranked at the absolute bottom¹ of the index (UNDP, 2009b). Much literature combines the gender gap with hunger, food insecurity, malnutrition and child mortality (Grebmer, et al., 2009), (Kabutha, 1999), (Quisumbing, et al., 1995) and (WHO, 2010c), since projects targeted to women providing education or financially possibilities have demonstrated a positive difference in the allocation of household incomes towards better nutrition. It is therefore difficult to neglect the fact of the high gender gap in Niger and the relation to malnutrition and food insecurity. The field research did not succeed in interviewing solely the women, which could reflect the difference in status and possibilities between the genders.

The following sections will present the specific social structures of the two communities with the aim of explaining the causes to malnutrition and the interaction with communities that affect malnutrition.

¹ Niger has a value of 0.308 at the GDI. A value close to 1 indicates no or a very little gap between genders. Norway is ranked with 0.961 and has thereby first place in the GDI (UNDP, 2009b).

3.1.2 YANTALA BABOU

Malnutrition in Yantala Babou can be linked to the community's closed relation to the outside world. Village of Yantala Babou is a closed society with limited social relations to the surroundings, and apart from some trading with Karma and some of the smaller surrounding villages, Yantala Babou exists by its own means. The Fulani trespass from time to time but tend to bring about conflicts because of their grazing cattle in cultivated fields. The ethnicities of the village are originally Hausa and Djerma, but today it can be said that the island has an integrated culture. This results in social life being limited to the people on the island, who only marry other people from the same island. It can be assumed that marriages between different cultures, ethnicities or communities can be a way of changing the existing food culture, since the newcomer can introduce other foods or preparation methods that were non-existing or existed in a limited extent before the new spouse came to the village. Since each ethnicity has their characteristics regarding occupation, food culture and life style a band between different cultures can be a possible way of changing a food culture, but this does not happen in Yantala Babou because marriages only take place in the same village culture. Marriages between relatives or between granddaughter and grandfather also occur in Yantala Babou. Upon questioning the villagers they claim that infant mortality is rare in Yantala Babou, but as the previous section has indicated of child mortality relating to consanguine marriages, the bad health condition of the children could relate to the side effects, such as a reduced immune system, from their parents' close consanguinity.

The social structure in the village indirectly influences child malnutrition because it is the chief and the elders that they decide the future development of the village. The elders in Yantala Babou are proud of their life style and wish to continue the life on the island without interruptions or changes from the outside. Their goal is to maintain status quo, which results in an opposition towards schools and further relations to Karma or other communities, since it is regarded as unwanted changes in their community. Schools are found in Karma, but the elders fear that the children will leave their home village when they grow older and want to continue education in another city. This is grounded in that the children are important in the home and in the fields where they are included in the daily chores, so attending school could complicate the daily work.

We don't believe in it [development]. Since we have been victims of many investigations and have never benefitted from one project (appendix 2, p. 6).

This quotation makes it clear that the elders hold a strong distrust to the outside because they have never benefitted from any projects. As previous mentioned the village also held distrust to this research and its purpose (cf. section 2.3.1), as they think that all interventions from the outside results in taxes or changes of their life style. Since the chief and his family are deeply respected in this society his decisions on subjects such as schools or health will be respected and followed. The village is less than 60 years old, and the first chief is still remembered among the elders together with his original idea of the village.

Also religion and traditional beliefs are parts of the culture that influences child nutrition. The locals believe in Islam but it seemed that there was a strong attachment to traditional spirits and practices. It was especially visible in relation to the fishing, since one of the key informants from the interview was referred to as president, which means that he is the chief in the surrounding fishing community, also called a "sorgho." A sorgho performs sacrifices in order to create a balance with the gods of the river and the fishermen. It is the sorgho of the specific area that decides whether another fisherman is allowed to fish in the river or not. The rules attached to fishing can limit the access to fishing for some persons if the respect and rituals of the sorgho are not sustained. This is an example of the close attachment of the village to traditional beliefs, which is also seen when the village finds explanations for diseases in the animistic religion and superstitions, which result in that any treatment of diseases is often based on traditional medicine and rituals and only in rare cases is the health center involved. Their practices of traditional medicine results in a limited contact with any medical trained staff, and thereby their perspectives on the causes to diseases are not broadened.

The life style in Yantala Babou is clearly based on a male dominated society in which the women play the role as wives, mothers from an early age, caretakers and labor.

The social life that rules in the village is a frame for her, where she is born and grows up in the conditions to take part in the life with the big family (appendix 2, p. 3).

With respect to malnutrition and food insecurity, a higher level of equality between genders can be beneficial to the nutritional status of the family, since the women allocate the financial means towards the whole household. The women live in a traditional paternalistic pattern of gender roles, where the women meet social, cultural and economic constraints. The women in Yantala Babou were neither supposed nor used to speak in the public forum which confirmed the strong gender disparities. Despite of Niger's general high rank of inequality, it is clear that there exist different levels of inequality, which will be demonstrated later in the case of Dogal Kayna.

3.1.3 DOGAL KAYNA

The nutritional status in Dogal Kayna is radically different from Yantala Babou, since the children were not visibly malnourished. The differences in the social structures are one part of the explanation to the difference in nutrition between the villages, which will be elaborated in the following.

Dogal Kayna is a mixed community between the Djerma, the Hausa and the Fulani tribes. The Fulani is traditionally a tribe with strong relations to other communities in their nomadic life style through their trade. This gives them a broad contact to other communities, but sometimes it also leads to conflicts because of their cattle. The Fulani in Dogal Kayna are settlers, but there are also nomadic Fulani in the surrounding area that sell milk and milk-based products in the village. There are also other merchants that come to the village both to sell food and non food products almost every day.

In terms of the relationship between malnutrition and the social structure of the village the inhabitants of the village can marry whom they decide and meet no severe constraints in marriage choice. The people are often encouraged to marry within the family but not as close in kinship as in Yantala Babou. Another aspect on social structures include the religion, which in the village is Islam, and no other beliefs or rituals are in use but the people in the village seem aware of other religious practices along the river and points out the area around Karma. Finally is the aspect of gender inequality, which is also present here, since it is a traditional

Nigerien society however, the women are allowed to speak publicly, and schools are seen as vital for development and progress.

3.2 FOOD CULTURE

Food culture is a product of the means available but also the cultural background of people. In Niger the staple food for all people are the millet and sorghum (FAO, 2010), which are some of the only crops that can grow in the Sahel (Syngenta, 2010). The culture or ethnicity together with occupation are strongly connected in the Nigerien society so farmers come mostly from the two largest ethnic groups in Niger; the Hausa and Djerma, while the Fulani are nomadic herders¹ (U.S. Department of State, 2010). This suggests that food culture is very similar despite of one's own production, but small diversities in the food culture occur, which are interesting to analyze in this research. Thereby the interaction between the communities and ethnicities will also be investigated in order to explain the nutritional difference in Yantala Babou and Dogal Kayna.

In order to understand the mechanisms of malnutrition in the Nigerien society, general aspects of food culture in which food insecurity, agriculture & fishing, feeding practices etc. will be presented in the following.

3.2.1 GENERAL ASPECTS ON FOOD CULTURE

The food culture can be linked to the food insecurity, which is constant in Niger. The lack of nutritious food or insufficient amounts of food available can cause micronutrient malnutrition or undernutrition, cf. 2.2.2. As described in chapter 1, the food insecurity in Niger is caused by many factors such as the climate, high population growth, market factors and education that all have an influence on the country's food security. The staple crops in Niger; the millet and the sorghum contain valuable nutrients, which primarily are the carbohydrates, proteins, dietary fibers and vitamins and minerals especially B-vitamin. However, they are also starchy

¹ The Hausa accounts for 53% of the population and the Djerma 21%. The rest of the people are nomads or semi-nomadic such as the Fulani (7%), Tuareg (11%), Kanuri (6%) and the Toubou and Gourmantche (2%) (U.S. Department of State, 2010).

and can cause a poor digestibility of nutrients dependent on the food preparation (FAO, 1995). That is why, the focus of the research is also on the relations to the nomadic Fulani community, since their food culture includes other products such as milk, dairy products and meat (Ekpo, 2009), which are very different from other communities that almost solely base their diets on grains. The dietary intake should never be based on one single food, since this can also create malnutrition. In parts of West Africa the diet is only based on cassava, which is almost entirely devoid of available proteins (Foster, et al., 1999). Animal products are often a very important source to proteins in developing countries, since they contain amino acids, iron and fats that are not present in large quantity in vegetables and grains (Michael C. Latham, 1997). Especially, the importance of fish is often stressed in the diets, since they consist of valuable proteins, fat, vitamins and minerals especially vitamin A and D (World Fish Center, 2010), where the former is important in order to avoid micronutrient malnutrition. Though as previously explained, it is not the task of this report to fully investigate the nutritional values of all the different foods present in the two villages but only to suggest that the diet could possibly lack vital nutrients.

Malnutrition can also be caused by a poor health condition of the pregnant women and thereby have severe consequences for their unborn children. It is estimated that 27% of newborns in Niger are born with low birth weight (WHO, 2010b) and 17.6% of children under the age of five is underweight (UNDP, 2009a). But if the woman is malnourished, it does not compromise her ability to produce nutritious breast milk, and therefore it is often emphasized that the healthiest way to create food security for infants and avoid infections in developing countries is by breast feeding (Foster, et al., 1999). That is why WHO recommends that infants in the first six months of life should be entirely breastfed since it: stimulates and develops their immune system, improves their responses to vaccinations and keeps the children from having diarrhea and acute respiratory infections¹.

This advice is in place in order to prevent diseases in unhygienic environments where breast milk substitutes are in risk to be mixed with contaminated water (UNICEF, 2006) & (WHO,

¹ The populations most at risk to develop a fatal respiratory disease are the very young, the elderly, and the immune-compromised people. Acute respiratory infections can lead to several diseases but influenza, pneumonia, tuberculosis, and bronchitis are the leading contributors to its high mortality rate. It the most important cause of infant and young children mortality accounting for two millions deaths per year. (WHO, 2009).

2010a). The breastfeeding practice in Niger is, as in many other African countries, a period of two years but with different supplementary foods in the diet such as water, herbal tea and cow milk within the first days of birth (USAID, 2006). It is especially in the transition period, where infants' diets are changed from 100% breast milk and to 100% other food that can be a critical period. In developing countries, this can often be a span of 18 months, and the children's high requirements for a calorie- and protein dense diet are often problematic in these countries, where the normal diet often is entirely based on grains (Foster, et al., 1999). Only 20% of all children in West and Central Africa are exclusively breastfed in the first six months of life (UNICEF, 2006) and only 4% in a national perspective of Niger (UNICEF, 2010).

The specifics of the food culture in the two case studies were investigated and revealed that it normal to have 2 or 3 meals per day dependent on the food capacity. At breakfast, it is often porridge which is served, but while in Yantala Babou it is with water and millet or gourd porridge, it is made with milk in Dogal Kayna. At lunch, in Yantala Babou and Dogal Kayna, it is rice if available or maize, however, at the time we visited the village the food crisis had set in, and rice was seen as luxury food to special occasions and to visitors. At supper, in both the villages, it is porridge and a sauce, but in Dogal Kayna supper can contain vegetables and fish or meat. That is very rare in Yantala Babou, and the only vegetable available is the gourd. Furthermore, it was explored whether there was any difference in what the children and the adults ate but that was not the case. However, infants in Yantala Babou were immediately given supplementary foods such as fish, deep-fried pastry and porridge. In Dogal Kayna, however, they begin the supplementary foods after 4 month of birth with e.g.; eggs, meat, fish and groundnut porridge.

An elaboration of the villages' food culture and its elements will be presented in the following sections.

3.2.2 YANTALA BABOU

Agriculture in Yantala Babou consists of irrigation agriculture at the river bank with gourds as the primary crop, which is sold on the market because of its good market value together with the spices from the women's farming. The people of the village also cultivate the millet, but

the yield is not sufficient to the whole population on the island so instead maize is bought on the local market from the sale of the gourds. Maize is their primary food because of its ability to satiate the whole family but they do also eat rice occasionally. Maize consists of many vitamins and minerals, a relatively low content of proteins, and is high on calories like other grains (FAO, 1992), whereas gourds are rich in proteins, dietary fibers and vitamin C but very low in calories (Natural-Environment, 2010). The maize diet has been accused of causing kwashiorkor (cf. section 2.2.2), but it is a combination of lacking micronutrients and proteins (FAO, 2001). The symptoms of undernutrition in different degrees and kwashiorkor were visible in Yantala Babou.

The women in this village also breastfeed their children until they are 2 years of age, and at the same time give the infants other foods such as fish, beignet and porridge. They also supplement with water from the river, which at the time of research did not seem clean and could influence the children's health and maybe be the cause of the diarrhea problems¹. Furthermore, milk is probably well-known for its good nutritional value, but this village had no female cows and did not use the milk from the sheep and goats. There is neither a Fulani community nearby, but the ones who had come by, were often seen as a problem with their cattle. The village had therefore no intention of trading with the Fulani communities, and in fact the trading was limited to the sale of gourds and fish in Karma, which especially the latter were rarely for local consumption.

The women of Yantala Babou were asked to describe their knowledge of good nutritional food, if they had any. They only mentioned one thing which was porridge made from liver, beans and onions, which had been recommended from the health center to children. They do not cultivate beans or onions nor do they consume meat, since they sell their animals (such as chicken and ducks) and animal products at the market, so if they make the porridge, it must be very rare.

¹ Neither of us was to drink the water in the village, since it was only people that were used to it that could drink it without becoming sick –so we were told.

3.2.3 DOGAL KAYNA

Like in Yantala Babou, this village also have agriculture and fishing as their primary occupations. In Dogal Kayna, they are diversified in crops and cultivate manioc, millet, maize, sesame and gourd dependent on the season. The yields are for local consumption; however, it is the millet and rice (the latter is bought on the market), which are their primary foods. In time of the conducted research, the fishing opportunities were decreasing in both villages, since the rainy season had begun in the neighboring countries and increased the amount of sediments in the river, which resulted in difficult living conditions for the fish. Therefore, fish at the time was not a regular food in the diets in Dogal Kayna as it was usually.

In the village, on an everyday basis, there is a diversified trade of milk, meat, and fish (normally), but also firewood and merchandise are accessible. In other words, there is a regular access to diversified goods which can possibly be explained by the size of the village, but also by the village's many relations to, not only the big village of Kollo, but to the surrounding communities in general. The village has a natural relation to the Fulani communities whose specialty is to sell milk, which provides the village with an easy access to this nutritious food. The interaction through trade is important and notable in Dogal Kayna, which can have had an influence in their nutritional status.

3.3 SUMMARY

This chapter has focused on social structures and food culture in the two villages with the aim of explaining the causes to malnutrition in Yantala Babou. It has used Dogal Kayna to locate what elements are important to take into account when understanding malnutrition in Yantala Babou. It is clear from the chapter that the two villages have arranged their life in two different directions both with respect to their view of life and in practical living.

The following chapter will sum up and conclude on the overall findings and compare and contrast the villages in order to locate the diversities that can explain malnutrition.

4 CONCLUSION

To begin with, this chapter will assess the findings from the analysis in the previous chapter by comparing the two villages and thereby locate the diversities and similarities. The differences will make it possible to find the explanation for child malnutrition in Yantala Babou. Finally, the last section will present an evaluation of the conducted field research.

4.1 FINDINGS

The research on child malnutrition in two communities in Niger demonstrated clear differences through an understanding of the social structures and food culture. The research showed that Yantala Babou is an isolated village, which wants to protect and continue its life style without interference from the outside, while Dogal Kayna has a wide interaction within the community and to the surrounding communities. There are several indicators on the fact that extended social relations in Yantala Babou are not wanted, which is a difficult fact to explain. However, distrust exists to the outside world, which is probably grounded in the village's previous contacts that were not beneficial to the village. Also, the values of the village founder is still respected and complied with, so radical changes of the original life style are not likely to happen. This also shows that a cultural understanding of the context is very important in order to fully comprehend the actions of the people. It is clear that the people live with social norms and protocols in which a small group of elders with the chief make decisions on behalf of the whole village. The cultural constrains and structures must be further understood in order to explain their distrust and reluctance to what others can see as progress and development.

The differences in social relations are also clear when comparing the two villages, since in Dogal Kayna the social relations are strong through economic activities such as trade with livestock, fish and agricultural products. In the area of the Niger River, trade in and among the communities is important, however, Yantala Babou's trade to the surroundings was limited compared to that in Dogal Kayna. The two villages have the same problems with the nomadic Fulani tribe, which seemed as an incitement for Yantala Babou not to have any social or trade relations to the Fulani. In Dogal Kayna, they also have the same problems with the non-

resident Fulani, but the trade of milk is still present. The importance of milk in children's diets, that in these areas are normally based on grains, are very important, and therefore the social relation to the Fulani is unfortunately in a health aspect to child malnutrition, but the access to proteins through milk is known and used in Dogal Kayna. Another difference is the ethnicity of the chiefs of the two villages. In Dogal Kayna, the chief is a Fulani, which has probably contributed to a natural and stronger attachment to the surrounding Fulani groups but also to milk and meat as natural foods in the diet. There is also a difference in marriages, since in Dogal Kayna marrying outside the village is possible, but also the village is bigger so marrying in or outside the village will probably reduce the related health risk associated to consanguinity compared to a more closed community such as Yantala Babou. However, the health risks from consanguine marriages are expected to be found all over Niger and in all ethnicities because of the strong cultural tradition and not only as a part of Islam.

There is also a clear difference in the extensive knowledge of good diets. In Yantala Babou, the women only described one thing, while the women in Dogal Kayna seemed to have an extensive knowledge on children's diets, (cf. appendix, interview reports). This can also be interpreted differently, but the presence of a school and a closer attachment to the health center, and not only traditional medicine, has probably had an influence on the openness to towards new food cultures. The feeding processes thereby develop in Dogal Kayna and not in Yantala Babou because of limited relations to different social contexts, where there is a possibility for learning new foods or preparation methods.

All in all, it can be concluded that relations through trade and social life can be beneficial in a health aspect, since it provides access and availability of products that are not normally present but also new foods and preparation methods. The research also reveals that developing approaches to eradicate malnutrition in communities such as Yantala Babou have to be specially designed and adapted to the given context and include aspects of showing respect and building trust if succeeding in having acceptance to intervene in the village.

The following will elaborate on the methods that have been used to conduct this research in order to evaluate the research.

4.2 THE QUALITY OF THE RESEARCH

The quality of a study can be examined by using different concepts evaluating different processes of the research, but they vary in relation to qualitative and quantitative research. In qualitative research, there is no direct guideline on how to evaluate the research, but through literature there are some similar concepts e.g. *credibility* or *trustworthiness*, which is an often mentioned concept on how good a qualitative study is. The following will use the evaluation process from Bryman (2004c) which besides *credibility* will apply *transferability*, *confirmability* and *relevance* on the conducted research.

“Credibility” investigates how believable the findings are based on the collected data and the following interpretation. This research has produced an interpretation on the background of data that are documented through transcriptions of interviews. This means that there is a physical proof of the conducted research, which can give a physical credibility to the conducted research.

In respect to my own skills as a researcher, credibility can be discussed because of lack of experience in conducting field research and in medical science. The lack of experience is mentioned, since this field research is the first in my academic career, which resulted in that much time was allocated to study the methodology. However, this made me up to date with the many mistakes and challenges in conducting social research; but I soon realized when entering the field that practice seemed far from theory. Even though, I had come into contact with the setting before, the circumstances had changed together with my new position that “wanted” information and hospitality. The lack of a medical background is also a factor, since I claim through the report that the children in Yantala Babou suffer from malnutrition. However, statistics from Niger contribute to an overall picture of a widespread prevalence in malnutrition, and from my part there has been no attempt in diagnosing the level of malnutrition but simply stating that malnutrition exists in the given environment, which statistics also verify. Therefore, the selected field is situated as an opportunity to conduct social research and to use my academic skills to understand the social aspects of a problem but also to develop an understanding for another scientific area in nutritional science.

The second concept, which can be used to evaluate a research, is “transferability,” which tries to investigate whether the findings apply to other contexts. If the specifics of the case studies

are put aside, this research and the method of case studying are transferable to other settings in Niger and perhaps also in Africa. It is my belief and experience that relations to other communities in Niger are strong and can situate as a possibility to improve the nutritional status with contact to the Fulani, since the occupation of the tribe is based on a heavy trade with livestock and dairy products. However, the current crisis demonstrates also the vulnerability of the Fulani, when the pasture, because of drought, disappears.

The third concept to be dealt with in the evaluation process of this research is “confirmability,” which deals with objectivity in which it is examined whether the researcher allowed her values to intrude in the research to a high degree. Since social research is carried out by a social interacting person, it is very difficult not to involve own values and assumptions, and can therefore not be total objective. The difficulty of objectivity is not to fall into the area of prejudice and judgment but instead use the basis of hypothesis as an evaluation of the researcher as an insider or an outsider in the research (Wolcott, 1995). In my research, I have received much information from my key informant and gatekeeper, Mr. Bako, which can have influenced my view, but I tended to be objective, however, much of the world was presented through his eyes and mouth because of the language barrier, and I then relied on his translations and knowledge. So in that aspect, some of the research could have been based on Mr. Bako’s subjectivity.

My own subjectivity and values is based on an instinctive comparison with my own culture to this unfamiliar culture, which is reflected in the research, but not to a high degree. Regarding Yantala Babou, I have reflected on that life style and have seen the village as an underdeveloped and uneducated community, since the lack of knowledge and will to change are some of the indirect causes to malnutrition. However, I am aware of the labels that I have put on the village, and through that awareness I tried to keep an open mind and hide my skepticism.

The final concept is about the “relevance” of the field research in the overall debate of causes to malnutrition, since the structural and natural factors such as poverty, climate changes, lack of green revolution in the agriculture and over population etc. cannot explain the causes entirely. Feeding practices of children are based on availability but also on food customs. The latter is not something easy to change, since they are deep rooted in culture, however

documentation of their existence can help to incorporate strategies on how to change, not the culture, but the ways of performing the non-beneficial elements of the culture.

5 REFLECTION ON THE FIELD RESEARCH

The practice of conducting research inspires to reflect on one's own performance but also on the practical arrangements that could have been different. Time is an important element that could have changed the extent of the research and perhaps also the outcome. The research could have been more extensive if it was conducted as a clear-cut ethnography with the normal time frame. "Going native" is a possible strategy in this context instead of being distanced from the community as a researcher, however this strategy also have its risk. Though, the research was conducted as micro-ethnography and resulted in a limited time to be acquainted with the people and win their trust.

Since Niger is a society based on protocols and social norms, which can seem difficult for outsiders at first glance, the risk of the people to distrust the researcher is present. Without a gatekeeper or any organization that are familiar with the social procedures, a research cannot be carried out properly. I imagine that with a greater familiarity to the context, e.g. as a development worker based for an extended period of time, it could have been possible to identify the whole social map of the two villages in a wider extent but also to visit other communities that Yantala Babou and Dogal Kayna have relations to. This would have resulted in a broader conclusion on the scale of the phenomena at the Niger River and how to exploit or incorporate the beneficial relations among the communities in nutrition projects.

It is my impression that understanding malnutrition in Niger is more complex than the common literature reveals. An assessment of culture and food culture will probably give a more nuanced picture of how to improve the nutrition of children in particular in rural communities of Niger. It could then have revealed a more detailed explanation of the reluctance to change in Yantala Babou. Thereby, a better understanding of the culture could be the basis for developing strategies to improve the nutritional status of children.

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